Standing Orders for Administering
Influenza Vaccines to Children & Adolescents*

Purpose: To reduce morbidity and mortality from influenza by vaccinating all children and adolescents as recommended by the Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices (ACIP). Influenza vaccination during the current pandemic of SARS-CoV-2, which causes COVID-19, is critical for avoiding a double surge in influenza and COVID-19 cases.

Policy: In accordance with Virginia Code §54.1-3408 (W) and under these standing orders, eligible nurses and pharmacists and certified emergency medical technicians (under direction of Operational Medical Director) may vaccinate children and adolescents as described below.

Please review all recommendations included in the Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices — United States, 2021-2022 Influenza Season

Special note on vaccinating during the pandemic: The extent to which SARS-CoV-2, the novel coronavirus that causes COVID-19, will circulate during the 2021–22 influenza season is unknown. However, it is anticipated that SARS-CoV-2 and influenza viruses will both be active in the United States during the upcoming 2021-2022 influenza season. Influenza vaccination programs might need to adapt and extend the duration of vaccination campaigns to accommodate stay-at-home orders and social distancing strategies aimed at slowing the spread of SARS-CoV-2. These circumstances might necessitate consideration of starting vaccination campaigns earlier (i.e., as soon as vaccine is available) to allow sufficient time to vaccinate the population and avoid some persons going unvaccinated for influenza. When possible, such considerations should be balanced against the potential waning of protection from influenza vaccination, particularly for persons aged ≥65 years. Additional information on SARS-CoV-2 illness is available on the CDC website (https://www.cdc.gov/coronavirus/2019-nCoV/index.html).

During the 2021–22 influenza season, it is expected that SARS-CoV-2 will continue to circulate in the United States, and COVID-19 vaccinations are expected to continue. Current guidance for the administration of COVID-19 vaccines (available at https://www.cdc.gov/vaccines/covid-19/clinical-considerations/covid-19-vaccines-us.html) indicates that these vaccines can be administered with other vaccines, including influenza vaccines; providers should consult this page for updated information. Guidance for vaccine planning during the pandemic is available at https://www.cdc.gov/vaccines/pandemic-guidance/index.html. Additional discussion of co-administration of influenza and COVID-19 vaccines can be found in the section on Administration of Influenza Vaccines with Other Vaccines.

Optimally, vaccination should occur before onset of influenza activity in the community. However, because timing of the onset, peak, and decline of influenza activity varies, the ideal time to start vaccinating cannot be predicted each season. Moreover, more than one outbreak might occur in a given community in a single year. In the United States, localized outbreaks that indicate the start of seasonal influenza activity can occur as early as October. However, in 27 (75%) of 36 influenza seasons from 1982–83 through 2017–18, peak influenza activity (which often is close to the midpoint of influenza activity for the season) has not occurred until January or later, and in 21 (58%) seasons, the peak was in February or later . Activity peaked in February in 15 (42%) of these seasons

Influenza Vaccination of Persons with COVID-19: Experience with influenza vaccination of persons with COVID-19 is limited. Considerations regarding vaccination of persons who have tested positive for COVID-19 or who are in quarantine after an exposure should include whether bringing the recipient into a vaccination setting could expose others to COVID-19, whether the person is acutely ill and the severity of the illness, presence of risk factors for severe influenza illness, the likelihood of being able to vaccinate at a later date, and the desire to avoid confusing post vaccination symptoms with those of COVID-19 illness. In general, those who are in quarantine or isolation should not be brought to a vaccination setting if doing so could expose others to COVID-19. For those who have moderate or severe COVID-19, vaccination should generally be deferred until they have recovered, which is consistent with ACIP General Best Practice Guidelines for Immunization. For persons who have mild or asymptomatic COVID-19, further deferral might be considered to avoid confusing COVID-19 illness symptoms with post vaccination reactions. Because recommendations for vaccination of this population might continue to evolve, clinicians should check current CDC guidance (https://www.cdc.gov/vaccines/pandemic-guidance/index.html) for up-to-date information.

Influenza Vaccination for Pregnant Adolescents: Immunization is an essential part of care for pregnant adolescent women because pregnant women who contract influenza are at a greater risk of maternal morbidity and mortality in addition to fetal morbidity, including congenital anomalies, spontaneous abortion, preterm birth, and low birth weight. The American College of Obstetricians and Gynecologists (ACOG) strongly recommends inactivated Influenza vaccine for all pregnant women during the Influenza season. Influenza vaccine can be administered with other vaccines recommended in pregnancy and can be administered in any trimester, including the first.

Procedure:

1. Identify children and adolescents ages 6 months and older who have not completed their influenza vaccination(s) for the current influenza season:
    a. Per the Centers for Disease Control (CDC), children aged 6 months through 8 years who require two doses of influenza vaccine should receive their first dose as soon as possible after the vaccine becomes available. The second dose (which must be administered ≥4 weeks later) should be received by the end of October.
    b. For those children and adolescents requiring only one dose of flu vaccine for the season, early vaccination (e.g. in July or August) may be associated with suboptimal immunity. Optimally, vaccination should occur before onset of influenza activity in the community.

2. Provide the parent or legal representative of the minor with a copy of the most current federal Vaccine Information Statement (VIS). You must document in the patient's medical record or office log the publication date of the VIS and the date it was given to the parent/legal representative. Provide non-English speaking parents/legal representatives with a VIS in their native language, if available and preferred. These can be found at: www.immunize.org/vis.

3. Obtain consent of the parent, guardian, or person standing in loco parentis after providing a Vaccine Information Statement (VIS) for review.

4. Screen all children for contraindications and precautions to influenza vaccine:
    a. **Contraindications**:
        - Inactivated Influenza Vaccine (IIV):
            - History of severe allergic reaction (e.g., anaphylaxis) after receiving a previous dose of influenza vaccine or an influenza vaccine component

- Live Attenuated Influenza Vaccine (LAIV):
  - Severe allergic reaction to any component of the vaccine or to a previous dose of any influenza vaccine (a labeled contraindication noted in the package insert). Note that ACIP makes an exception for allergy to egg (see Persons with a History of Egg Allergy).
  - Children and adolescents receiving concomitant aspirin- or salicylate-containing medications , because of the potential risk for Reye syndrome (a labeled contraindication noted in the package insert)
  - Children aged 2 through 4 years who have received a diagnosis of asthma or whose parents or caregivers report that a health care provider has told them during the past 12 months that their child had wheezing or asthma or whose medical record indicates a wheezing episode has occurred during the preceding 12 months
  - Children and adolescents who are immunocompromised due to any cause, including but not limited to: immunosuppression caused by medications, congenital or acquired immunodeficiency states, HIV infection, anatomic asplenia, or functional asplenia (such as that due to sickle cell anemia)
  - Close contacts and caregivers of severely immunosuppressed persons who require a protected environment
  - Pregnancy
  - Persons with active communication between the cerebrospinal fluid (CSF) and the oropharynx, nasopharynx, nose, or ear or any other cranial CSF leak
  - Persons with cochlear implants, because of the potential for CSF leak, which might exist for some period after implantation (providers might consider consulting with a specialist concerning the risk for persistent CSF leak if an age-appropriate inactivated or recombinant vaccine cannot be used)
  - Receipt of influenza antiviral medication within the previous 48 hours for oseltamivir and zanamivir, previous 5 days for peramivir, and previous 17 days for baloxavir. The interval between influenza antiviral receipt and LAIV4 for which interference might potentially occur might be further prolonged in the presence of medical conditions that delay medication clearance (e.g., renal insufficiency).

- Recombinant Influenza Vaccine (RIV)
  - RIV4 is not licensed for children <18 years

- ccIIV4 (Flucelvax Quadrivalent, licensed for those aged ≥2 years)
  - A cell-based flu vaccine was developed as an alternative to the egg-based manufacturing process. Cell-culture technology is potentially more flexible than the traditional technology, which relies upon adequate supply of eggs. In addition, the cell-based flu vaccine that uses cell-based candidate vaccine viruses (CVVs) has the potential to offer better protection than traditional, egg-based flu vaccines as a result of being more similar to flu viruses in circulation.

  - While viruses used in Flucelvax Quadrivalent have been grown in cells since the vaccine first became available, prior to the 2021-2021 season some of

the viruses provided to the manufacturer had been originally derived in eggs. For the 2021-2022 influenza season, all four flu viruses used in the Flucelvax Quadrivalent are cell-derived, making the vaccine egg-free.

b. **Precautions**:

- Inactivated Influenza Vaccine (IIV):
  - Moderate or severe illness with or without fever
  - History of Guillian-Barré syndrome within 6 weeks of a previous influenza vaccination.

- Live Attenuated Influenza Vaccine (LAIV):
  - Moderate or severe illness with or without fever
  - History of Guillian-Barré syndrome within 6 weeks of a previous influenza vaccination
  - Asthma in children aged ≥5 years old
  - Other underlying medical conditions that might predispose to complications after wild-type influenza infection (e.g. chronic pulmonary, cardiovascular conditions, diabetes, etc.)

- Persons with a history of egg allergy:
  - As is the case for all vaccines, influenza vaccines contain various components that might cause allergic and anaphylactic reactions. Not all such reactions are related to egg proteins; however, the possibility of reactions to influenza vaccines in egg-allergic persons might be of concern to these persons and vaccine providers.
  - A history of a severe allergic reaction (e.g., anaphylaxis) to a previous dose of any egg-based IIV, LAIV, or RIV (not licensed for children less than 19 years) of any valency is a precaution to use of ccIIV4.
  - A history of a severe allergic reaction (e.g., anaphylaxis) to a previous dose of any egg-based IIV, ccIIV, or LAIV of any valency is a precaution to use of RIV4 (not licensed for children less than 18 years).
  - Use of ccIIV4 and RIV4 (not licensed for children less than 18 years) in such instances should occur in an inpatient or outpatient medical setting under supervision of a provider who can recognize and manage a severe allergic reaction; providers can also consider consulting with an allergist to help identify the vaccine component responsible for the reaction. For ccIIV4, history of a severe allergic reaction (e.g., anaphylaxis) to any ccIIV of any valency or any of component of ccIIV4 is a contraindication to future use of ccIIV4. For RIV4 (not licensed for children less than 18 years), history of a severe allergic reaction (e.g., anaphylaxis) to any RIV of any valency or any component of RIV4 is a contraindication to future use of RIV4.
  - Currently available influenza vaccines, with the exceptions of RIV4 (Flublok Quadrivalent, licensed for those aged ≥18 years) and ccIIV4 (Flucelvax Quadrivalent, licensed for those aged ≥2 years), are prepared by propagation of virus in embryonated eggs and might contain trace amounts of egg proteins, such as ovalbumin. Severe allergic reactions to vaccines, although rare, can occur at any time, even in the absence of a history of previous allergic reaction.

- All vaccine providers should be familiar with the office emergency plan and be certified in cardiopulmonary resuscitation. For persons who report a history of egg allergy, ACIP recommends the following: Persons with a history of egg allergy who have experienced only urticaria (hives) after exposure to egg should receive influenza vaccine. Any licensed, recommended influenza vaccine (i.e., any IIV, RIV4, or LAIV4) that is otherwise appropriate for the recipient's age and health status may be used.
- Persons who report having had reactions to egg involving symptoms other than urticaria (e.g., angioedema or swelling, respiratory distress, lightheadedness, or recurrent vomiting) or who required epinephrine or another emergency medical intervention may similarly receive any licensed, recommended influenza vaccine (i.e., any IIV, RIV4, or LAIV4) that is otherwise appropriate for their age and health status. If a vaccine other than ccIIV4 or RIV4 is used, the selected vaccine should be administered in an inpatient or outpatient medical setting (including but not necessarily limited to: hospitals, clinics, health departments, and physician offices).
- Vaccine administration should be supervised by a health care provider who is able to recognize and manage severe allergic reactions.
- A previous severe allergic reaction to influenza vaccine, regardless of the component suspected of being responsible for the reaction, is a contraindication to future receipt of the vaccine.
- No post vaccination observation period is recommended specifically for egg-allergic persons. However, ACIP recommends that vaccine providers consider observing patients (seated or supine) for 15 minutes after administration of any vaccine to decrease the risk for injury should syncope occur.

5. Healthcare providers will need to be aware of recommendations for infection control during vaccination during the current COVID-19 pandemic. Additional guidance on the appropriate use of PPE is available as well from the Centers for Disease Control and Prevention.

   Administer injectable inactivated vaccine (IIV) intramuscularly in the anterolateral thigh muscle for infants (and toddlers lacking adequate deltoid mass) or in the deltoid muscle (for toddlers, children, and adolescents).

   Use a 22 – 25 g needle. Choose needle length appropriate to the vaccine recipient's age and body mass. Guidelines for choosing needle length and proper administration technique may be found at: https://www.cdc.gov/vaccines/pubs/pinkbook/vac-admin.html#route.

   Vaccines and dose volumes for children aged 6 through 35 months: Four IIV4s are approved for ages ≥6 months; one is approved for ages ≥2 years. The appropriate dose volumes for some of these vaccines differ for children aged <36 months from those for older children and adults (Table 4). For these vaccines, approved age indications and dose volumes are as follows:
   - Afluria Quadrivalent is approved for ages ≥6 months. The approved dose volume for children aged 6 through 35 months is 0.25 mL per dose. Persons aged ≥36 months (≥3 years) should receive 0.5 mL per dose.

- Fluarix Quadrivalent is approved for ages ≥6 months. The approved dose volume is 0.5 mL per dose for all persons aged ≥6 months.
- FluLaval Quadrivalent is approved for ages ≥6 months. The approved dose volume is 0.5 mL per dose for all persons aged ≥6 months.
- Fluzone Quadrivalent is approved for ages ≥6 months. The approved dose volume for children aged 6 through 35 months is either 0.25 mL or 0.5 mL per dose. Persons aged ≥36 months (≥3 years) should receive 0.5 mL per dose.
- Flucelvax Quadrivalent is approved for ages ≥2 years. The approved dose volume is 0.5 mL per dose for all persons aged ≥24 months (≥2 years).

Alternatively, healthy children aged ≥24 months (≥2 years) may receive LAIV4, 0.2 mL intranasally (0.1 mL in each nostril). LAIV4 is not recommended for some populations (see Contraindications and Precautions for the Use of LAIV4) (Table 2), and is not approved for children aged <2 years.

RIV4 is not approved for children aged <18 years. High-dose inactivated influenza vaccine (HD-IIV4) and adjuvanted inactivated influenza vaccine (aIIV4) are not approved for persons aged <65 years.

Care should be taken to administer an age-appropriate vaccine at the appropriate volume for each dose. For IIV4s, the recommended volume may be administered from a prefilled syringe containing the appropriate volume (as supplied by the manufacturer), a single-dose vial, or a multidose vial. Afluria Quadrivalent is approved for children aged 6 through 35 months at 0.25 mL per dose. Fluzone Quadrivalent is approved for children aged 6 through 35 months at either 0.25 mL or 0.5 mL per dose. However, the 0.25-mL prefilled syringe presentation of Fluzone Quadrivalent is not anticipated to be available for the 2021–22 season. If a prefilled syringe of Fluzone Quadrivalent is used for a child in this age group, the dose volume will be 0.5 mL per dose. Single-dose, 0.5-mL vials of Fluzone Quadrivalent should be used for only 1 dose, and multidose vials for only 10 doses, regardless of the volume of the doses taken or any remaining volume in the vial. Any vaccine remaining in a vial after the maximum number of doses has been removed should be discarded.

Number of doses for children aged 6 months through 8 years: Children aged 6 months through 8 years require 2 doses of influenza vaccine administered a minimum of 4 weeks apart during their first season of vaccination for optimal protection Determination of the number of doses needed is based on 1) the child's age at the time of the first dose of 2021–22 influenza vaccine and 2) the number of doses of influenza vaccine received in previous influenza seasons:

- For those aged 6 months through 8 years, the number of doses of influenza vaccine needed for the 2021–22 influenza season is determined as follows (Figure):
    - Those who have previously received ≥2 total doses of trivalent or quadrivalent influenza vaccine ≥4 weeks apart before July 1, 2021, require only 1 dose for the 2021–22 season. The 2 previous doses of influenza vaccine do not need to have been administered in the same season or consecutive seasons.
    - Those who have not previously received ≥2 doses of trivalent or quadrivalent influenza vaccine ≥4 weeks apart before July 1, 2021, or whose previous influenza vaccination history is unknown, require 2 doses for the 2021–22 season. The interval between the 2 doses should be ≥4 weeks. Two doses are recommended even if the child turns age 9 years between receipt of dose 1 and dose 2.
- Those aged ≥9 years need only 1 dose of influenza vaccine for the 2021–22 season.

The following chart may be helpful for some providers:

Influenza Vaccine Products for the 2021–2022 Influenza Season

Manufacturer	Trade Name (vaccine abbreviation)[1]	How Supplied	Mercury Content (mcg Hg/0.5mL)	Age Range	CVX Code	Vaccine Product Billing Code[2] CPT
AstraZeneca	FluMist (LAIV4)	0.2 mL (single-use nasal spray)	0	2 through 49 years	149	90672
GlaxoSmithKline	Fluarix (IIV4)	0.5 mL (single-dose syringe)	0	6 months & older[3]	150	90686
	FluLaval (IIV4)	0.5 mL (single-dose syringe)	0	6 months & older[3]	150	90686
Sanofi Pasteur	Flublok (RIV4)	0.5 mL (single-dose syringe)	0	18 years & older	185	90682
	Fluzone (IIV4))	0.5 mL (single-dose syringe)	0	6 months & older[3]	150	90686
		0.5 mL (single-dose vial)	0	6 months & older[3]	150	90686
		5.0 mL (multi-dose vial)	25	6 through 35 months[3]	158	90687
		5.0 mL (multi-dose vial)	25	3 years & older	158	90688
	Fluzone High-Dose (IIV4-HD)	0.7 mL (single-dose syringe)	0	65 years & older	197	90662
Seqirus	Afluria (IIV4)	0.25 mL (single-dose syringe)	0	6 through 35 months[3]	161	90685
		0.5 mL (single-dose syringe)	0	3 years & older[3]	150	90686
		5.0 mL (multi-dose vial)	24.5	6 through 35 months[3]	158	90687
		5.0 mL (multi-dose vial)	24.5	3 years & older[4]	158	90688
	Fluad (aIIV4)	0.5 mL (single-dose syringe)	0	65 years & older	205	90694
	Flucelvax (ccIIV4)	0.5 mL (single-dose syringe)	0	2 years & older[3]	171	90674
		5.0 mL (multi-dose vial)	25	2 years & older[3]	186	90756

NOTES

1. IIV4 = egg-based quadrivalent inactivated influenza vaccine (injectable); where necessary to refer to cell culture-based vaccine, the prefix "cc" is used (e.g., ccIIV4); RIV4 = quadrivalent recombinant hemagglutinin influenza vaccine (injectable); aIIV4 = adjuvanted quadrivalent inactivated influenza vaccine.
2. An administration code should always be reported in addition to the vaccine product code. Note: Third party payers may have specific policies and guidelines that might require providing additional information on their claim forms.
3. Dosing for infants and children age 6 through 35 months:
   - Afluria 0.25 mL
   - Fluarix 0.5 mL
   - Flucelvax 0.5 mL (24 through 35 months)
   - FluLaval 0.5 mL
   - Fluzone 0.25 mL or 0.5 mL
4. Afluria is approved by the Food and Drug Administration for intramuscular administration with the PharmaJet Stratis Needle-Free Injection System for persons age 18 through 64 years.

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6. Monitor the patient for a minimum of 15 minutes following immunization to ensure there is no immediate adverse reaction. Older children and adolescents are prone to syncope after vaccination. Staff should be aware and trained to respond to syncopal events, particularly in adolescents.

7. Document each patient's vaccine administration information and follow up in the following places:
   a. **Medical chart**: Record the date the vaccine was administered, the manufacturer and lot number, the vaccination site and route, date of the VIS provided, and the name and title of the person administering the vaccine. If vaccine was not given, record the reason(s) for non-receipt of the vaccine (e.g., medical contraindication, patient refusal). Per the Code of Virginia §54.1-3408 emergency medical services (EMS) personnel shall provide documentation of the vaccines to be recorded in the Virginia Immunization Information System (VIIS). All influenza providers are strongly recommended to ensure the vaccine is recorded in VIIS either directly or through data exchange from an electronic medical record system.

   b. **Personal immunization record card**: Record the date of vaccination and the name/location of the administering clinic and provider.

8. Be prepared for management of a medical emergency related to the administration of vaccine by having a written emergency medical protocol available, as well as equipment and medications. All vaccine providers should be certified in cardiopulmonary resuscitation.

9. Report all adverse reactions to influenza vaccine to the federal Vaccine Adverse Event Reporting System (VAERS) at https://vaers.hhs.gov or (800) 822-7967. VAERS report forms are available at the VAERS web site.

This policy and procedure shall remain in effect for all patients of the

_____ until rescinded or until _____.
(Name of practice or clinic) (Date)

Medical Director's signature: _____ Effective date: _____

References:

American College of Obstetricians and Gynecologists Immunization, Infectious Disease, and Public Health Preparedness Expert Work Group, in Collaboration with members Kevin A. Ault, MD and Laura E. Riley MD, (June, 2018, Reaffirmed June 2021). Maternal Immunization. *ACOG.org*, Retrieved from: https://www.acog.org/clinical/clinical-guidance/committee-opinion/articles/2018/06/maternal-immunization

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* Per communication with the Board of Nursing, this document contains no substantive changes from the previous year and does not need board approval

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